DOCUMENT RESUME

ED 021 896 UD 004 090

By- Quay, Herbert C.

AN EMPIRICAL-EXPERIMENTAL APPROACH TO THE NATURE AND REMEDIATION OF CONDUCT DISORDERS OF CHILDREN.

Yeshiva Univ., New York, N.Y. Ferkauf Graduate School of Humanities and Social Sciences.

Pub Date 3 May 66

Note- 18p.; Published in the Proceedings of the Annual Invitational Conference on Urban Education (5th, May 3, 1966).

Available from- Yeshiva University, Ferkauf Graduate School, 55 Fifth Avenue, New York, N.Y. 10003 ($2.50)

EDRS Price MF-$0.25 HC Not Available from EDRS.

Descriptors- BEHAVIORAL OBJECTIVES, *BEHAVIOR CHANGE, BEHAVIOR PATTERNS, *CLASSROOM TECHNIQUES, CONDITIONED RESPONSE, EDUCATIONAL DIAGNOSIS, EDUCATIONAL RESEARCH, *EMOTIONALLY DISTURBED CHILDREN, GROUP INSTRUCTION, PSYCHOLOGICAL PATTERNS, *REINFORCEMENT, *SOCIALLY MALADJUSTED, SPECIAL CLASSES

This conference paper stresses that children's behavior disorders can be modified in the classroom if they are considered as a constellation of specific behaviors rather than as deviant personality traits or disease entities. To do so, however, the children must be approached within the framework of an empirically-based classification system. A behavior checklist filled out by teachers and parents can be used as a basic diagnostic tool to identify syndromes of problem behavior (conduct or personality disorders, or the disorders of the subcultural delinquent or the immature child). Classroom remediation methods should be based on the application of the principles of learning theory. The child should be taught to substitute acceptable alternatives for his inappropriate behaviors. To do so, it is necessary to experiment in the classroom with types of reinformcement, agents of reinforcement, and methods or presentation of reinforcement. Although most methods of behavioral remediation are designed for individual instruction, it is important for economic reasons to extend them to group situations. The goal of this remediation must be to help the child reenter the regular classroom cycle. Examples of empirical attempts to deal with specific problems in a special class setting are included. (DK)

An Empirical-Experimental Approach to the Nature and Remediation of Conduct Disorders of Children[1]

HERBERT C. QUAY
University of Illinois, Chicago, Ill.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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In this presentation I will try to discuss both the development of a conceptual system for the classification of children's behavior problems and what appears to be the most promising approach to the modification of these problems in the school setting. I hope to show that an empirically based classification system has important implications for remediational programs and that the assessment of children within the framework of such a system is a necessary and first step in the remediational process.

UD 004 090 ED021896

The Structure of Children's Behavior Disorders

Our basic assumption about the nature of children's behavior disorders is that they can be viewed most profitably in terms of the specific behaviors themselves and in terms of intercorrelated constellations of these behaviors rather than in terms of either deviant personality types or disease entities. This viewpoint suggests that there are dimensions of deviant or discordant behavior along which all children will vary. The child whose behavior has come to be extreme on one or more of these dimensions is the child who is likely to become known as an emotionally disturbed or behavior problem child.

Considerable research has been devoted to the delineation of these basic intercorrelated constellations, syndromes or dimensions

[1]The research described herein was supported by a grant (MH-07346) from the National Institutes of Health, U.S.Department of Health, Education and Welfare.

of problem behavior. Over the past few years there have appeared a number of studies in which multivariate statistical procedures have been applied to data obtained by a variety of methods from samples of problem behavior children in many different settings.

These studies have sampled children who are clients of child guidance clinics, (Hewitt & Jenkins, 1946; Patterson, 1964) inmates of correctional institutions, (Peterson, Quay & Tiffany, 1961; Quay, 1964a Quay, 1964b;Quay, 1966) students in regular classes in the public schools (Peterson, 1961; Quay & Quay, 1965) and students in special classes for the emotionally disturbed (Quay, Morse & Cutler, 1966). Data have been collected by means of analysis of case histories, the direct ratings of behavior, the responses to personality questionnaires, and combinations of all three methods.

Beginning with the pioneering work of Hewitt and Jenkins,(1946) a considerable degree of consistency of results has emerged. The majority of the variance of a vast number of both directly observed problem behavior traits and questionnaire items related to problem behavior can usually be accounted for by four orthogonal factorial dimensions. These factors have been called 1) the conduct disorder, unsocialized-aggressive or psychopathy; 2) the personality disorder, overinhibited or neurotic-disturbed; 3) the socialized or subcultural delinquent; and 4) the inadequate or immature child.

The unsocialized-aggressive syndrome routinely contains behavioral elements of active hostility, defiance, cruelty, aggression, attention- seeking, boisterousness, uncooperativeness, disruptiveness, and many other like characteristics.

The personality problem or neurotic syndrome generally encompasses the behavior traits of shyness, seclusiveness, apathy, aloofness, reticence, withdrawal, anxiety, inferiority and lack of confidence.

The socialized delinquent syndrome is somewhat different in that it is composed of behavior traits such as truancy, engaging in gang activities, cooperative stealing, associating with delinquent companions, but does not contain behavioral elements suggesting either subjective psychological distress or a fundamental disruption of interpersonal relationships. This cluster of behaviors seems to relate to "delinquent" or acting-out behavior more as an adaptive than a maladaptive mechanism.

The syndrome called inadequacy-immaturity almost always accounts for much less of a variance than the prior three factors and its interpretation is consequently less clear. Most frequently it is made up of the traits of daydreaming, distractibility, inability to cope, inattention, preoccupation, and laziness Some of the elements of this syndrome are suggestive of the constellation of behaviors frequently thought to be associated with what has been called minimal cerebral dysfunction Parenthetically, I should like to note that we are currently engaged in a cooperative research project involving intensive neurological studies of a group of about 60 children which should shed some light on this possibility.

At present it is possible to measure the degree to which any child manifests each of these problem behavior dimensions by the use of a problem behavior checklist, a checklist for the analysis of life

history data and, for children with the reading ability, a personality questionnaire. In the operation of our own experimental class for conduct disorder children we give considerable emphasis to the problem behavior checklist as it is filled out by teachers and parents as a basic diagnostic tool.

General Concepts of Remediation

Before discussing the particular implications of these problem behavior dimensions for the remediational process I should like to spend a minute or two outlining the general concepts of remediation with which my colleagues and I are currently experimenting in a special class setting and which we feel holds a great deal of promise for effectiveness in the public school setting.

We consider the proper focus of attention in remediation to be on maladaptive behaviors which are seen primarily as the result of the prior learning experiences of the child. Thus it follows that remediation should be based on the application of the principles of learning theory as these principles may interact with and be influenced by the behavioral characteristics of the child. The aim is to bring about the elimination of inappropriate behavior and to substitute for them adaptable alternative behaviors. There is now considerable evidence from both laboratory studies (Bandura & Walters, 1963) and from field experiments (Zimmerman & Zimmerman, 1962; Azran & Lindsley, 1966; Patterson, Jones, Whittier & Wright, 1965) that maladaptive behavior in children can be modified in a variety of situations by the direct manipulation of stimulus conditions and response-reinforcement

contingencies involve the judicious use of reward and punishment at an appropriate point in time. There are two important principles in the use of reward and punishment in behavior modification. The first is that the reinforcement should come immediately after the target behavior is emitted if it is going to be most effective in increasing the probability that that behavior will again be emitted. This principle of immediate contingency is one of the most crucial factors in behavior modification but seems to remain one of the least appreciated by those working with children. A second point is that what is rewarding and what is punishing may at times be quite idiosyncratic to the child in question and it may require considerable skill to find reinforcers which are effective with a particular child.

Thus to be successful in behavior modification one must organize the environment in such a way that deviant and disagreeable responses go unreinforced and are thus subject to extinction while adaptive behavior receives immediate and generally continuous reinforcement.

The Implication of the Dimensions of Problem Behavior for the Remediational Process

Basically the implications are twofold and concern what should be taught (the content) and how it should be taught (the method). Since we are concerned here with the acting-out child I will limit this part of the discussion to the unsocialized-aggressive and socialized delinquent syndrome.

Recent research has indicated that social reinforcers such

as praise and other verbalizations are relatively weaker in effect on individuals who represent extremes of the unsocialized-aggressive behavior syndrome. (Johns & Quay, 1962; Levin & Simmons, 1962; Quay & Hunt, 1965). It therefore appears that in the early stages of retraining the conduct disorder child it may be necessary to utilize reinforcers of a concrete nature such as candy, trinkets and toys. However, the dispensing of more primary rewards ought deliberately to be paired with social reinforcers such as praise, smiles and approving gestures, to facilitate the development of responsivity to the more usual social reinforcers.

Another facet of the nature of the highly unsocialized or psychopathic individual lies in the realm of the responsivity of the nervous system of such individuals to external stimulation. It does appear that some of the overt aggressive behavior of such individuals may be motivated in part by an inability to tolerate routine and boredom. I have suggested elsewhere (Quay, 1965) that the behavior of psychopathic individuals may represent an extreme of stimulation-seeking behavior and thus it follows that variety in the nature of stimulus inputs may be a reinforcing event for these kinds of individuals. Thus, sudden switches in activity, the use of activities which have a high novelty value, and the introduction of a certain amount of uncertainty into the situation may be used as reinforcers for these individuals.

In dealing with the acting-out child one also needs to be aware that aggressive behavior carries a high potential for modelling. As we have pointed out previously (Quay, Werry, McQueen & Sprague, 1966) it seems important as a practical point to increase the size of a class

containing conduct problem children slowly to insure that the teacher can maintain control of the group situation. In this way examples of acceptable behaviors are available for modelling by the incoming child as well as the maladaptive aggressive behaviors so frequently displayed by these children.

The socialized delinquent child present somewhat different features. Here we have a situation where there is considerable reason to believe that the peer group has been the primary source of reinforcement. The behaviors which have been learned by the socialized-delinquent child have likely been learned through reinforcements delivered by peers rather than by parents. Our problem here is to substitute other reinforcers for the approval of peers or to manipulate the entire group so that in turn they will tend to reinforce more appropriate behaviors of each others. It appears that one common mistake that has been made in the approach in working with groups of socialized delinquents has been the tendency for workers to unwittingly reinforce the very behavior which they are trying to extinguish. In attempting to control behavior delinquency prevention workers frequently use very concrete rewards: money, recreational trips, mediational services with police and schools, etc. It is certainly true that these sorts of actions on the part of workers take some reinforcement out of the hands of peers but there seems to have been an unfortunate tendency for workers to make these rewards contingent upon delinquent behavior rather than upon constructive behavior.

In working with the socialized delinquent child it seems most important to create a highly organized environment in which most re-

inforcers are taken out of the hands of peers. It seems likely that the "values" of the group may be manipulated by making group rewards sometimes contingent upon acceptable behavior on the part of individual members. This seems likely to bring group pressure to bear in bringing about acceptable rather than deviant behavior.

Examples of Empirical Attempts to Deal with Specific Problems in the Special Class Setting

In our early observations of the pupils in our own experimental special class we were impressed by the very poor attending behavior of our children. While we were attempting to maximize attending behaviors by some individual instruction and individually programmed material we also felt that if we were ever to rehabilitate our children to a sufficient degree that they could return to a normal classroom there was merit in attempting systematically to train the children in attending to the teacher and group instructional situations.

In an attempt to increase the attending behavior of our children we devised a situation in which reinforcement could be silently and unobtrusively delivered to an individual child if he had kept his eyes as instructed on the teacher during a given period of time. Each child was observed serially for a ten-second interval for a total of 15 such intervals during each experimental session. These observations were carried out at the same time each day and at the same activity (listening to a story). Prior to the instituting of reinforcement, observation was carried out over a period of 12 days to obtain a baseline. These observations indicated that both between and within

subject variation was large but with the mean for the group was slightly over 6 out of a possible total of 15. This meant that on the average the children were fully attentive to the teacher in only six out of 15 ten-second periods during which each was observed.

At the end of the baseline period a box containing a light which could be flashed on by the experimenter was placed on each child's desk. The children were told that if they were paying attention to the teacher their light would go on from time to time and that at the end of the story period they would receive one piece of candy for each time the light had flashed. From a technical point of view, the reinforcement of the orienting behavior is on a fixed ratio schedule of 1 to 5. This would be predicted to result in greater resistance of the behavior to extinction after acquisition but to require a much larger number of learning trials for acquisition. It was hoped that the advantage of our being able to condition six children at once would outweigh the disadvantage of more trials resulting from the intermittent reinforcement schedules. The mean of the last 20 trials of reinforcement was between 12 and 13. At that point, the children were told that they would no longer receive candy for having paid attention but that their score would still be taken and would be announced at the end of the period. Since our teacher was afraid that the removal of all reinforcement would institute considerable deterioration in behavior she substituted a pat on the head for each point earned for the previous candy reward. We then ran 35 trials under this condition which we called social reinforcement. The mean for the last 20 trials under this condition was slightly less than 12. At that point we dropped out all mention of candy, points, pats on the head, or

anything else and put the children on complete extinction. This part of the experiment is still under way; we shall report the details of this study in a more formal way at a later date.

The fact that most special classes for the emotionally disturbed necessarily contain children at various levels of academic achievement presents serious problems in group instruction. One way of mitigating this problem somewhat is to provide some individual instruction for those children so deficient in basic academic skills as to limit their participation in various phases of the group instruction. We have attempted this primarily with reading using programmed instructional methods coupled with immediate concrete reinforcement. In one instance, a six year old child of average ability acquired the alphabet in approximately 12 ten minute sessions spread over about two weeks. In the course of this procedure, it was also possible to shift from primary reinforcers (candy) delivered immediately and on a continuous or 1:1 basis to a symbolic reward (poker chips) to be traded for a concrete reward (candy) at a later time (lunch hour) on a ratio of 4 correct responses for 1 reward. Thus, at the same time reading was being taught, the child was also being taught (1) to work for symbolic rewards, (11) to delay gratification and (111) to work on intermittent reinforcement schedule-- three characteristics which must be developed if the emotionally disturbed child is to participate ultimately in the regular school program. After acquiring the alphabet this child began a phonically oriented programmed series during the course of which he was switched to social reinforcement. His reading instruction is now taking place in a regular class adjacent to our special classroom.

Group vs Individual Techniques

The economics of public schools obviously require the development of techniques that will allow children to be handled in a group situation by as few adults as possible. Most of the techniques of behavioral remediation have been developed for use on an individual basis and it seems crucial at this stage to attempt to extend these techniques to group situations. This is a problem to which we are most seriously addressing ourselves, since even if the techniques of behavior remediation should prove to be very highly effective when applied on an individual basis, they are nevertheless likely to remain economically unfeasible unless they can be adapted for use in a group setting such as the classroom.

The Goals of the Special Class

While it is probably unrealistic in the case of every child, the goal of the special class should be to reintegrate its pupils into the regular class system. Special classes tend to be, partly as a result of legal restrictions, better staffed and also often better equipped than regular classes. This can easily lead to the development of what can be called "hot house" techniques and standards of behavior. This is probably both necessary and useful initially in shaping the child's behavior to approximate to the norm, but regular class oriented procedures such as group rather than individual instruction and a decreasing tolerance for deviant behavior must ultimately be instituted preferably by successive approximation.

Role of the Techniques of the Special Class in the Regular Class

A final but certainly no less important point is that techniques

developed in the special class setting should ideally have some general applicability in the regular classroom. In the last analysis, the aim should be that of prevention rather than that of remediation. Techniques should be developed to prevent children from becoming discordant enough in their behavior to warrant special class placement. The special class should see itself not only as a remediational setting, but also as a laboratory in which techniques for teaching adaptive behavior in a group setting can be developed and then communicated to teachers in the regular class system.

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Discussant

DR. BLUMA WEINER, ED.D.
Ferkauf Graduate School, Yeshiva University, New York, N.Y.

I think there has been very wide acknowledgment that a kiss on the wrist is quite continental, but it takes real science and talent to determine the worth of a pat on the head. I also think that Dr. Quay has done a rather special service here this morning, a three-pronged one. First, he has assisted in formulating more precise terminology and, therefore, more precise thinking. If we use the term "conduct disorder" as it has been described behaviorally it enables us to bring into manageable segments certain kinds of problems. It not only enables the adult to bring these segments into manageability, but possibly also the child involved.

The generally broad global concepts of behavior and global terminology such as "emotionally disturbed" which many of us have struggled with, seem almost impenetrable. It's hard to get inside a globe; it seems to have no beginning or no end. By latching on to a rather specific aspect of behavior, describing it, cutting it to size as it were, Dr. Quay has enabled us to appreciate the second service he has done, and that is to dispel the "mystique" or illusionist attitude about children with conduct disorders. The job is difficult enough as it is. There are enough unknowns without any artificial haloes, esoteric mysteries or what-not, about working with disturbed, retarded, or acting-up children.

The third service he has done is to help us ascertain more precisely the roles of school and of teachers. He also did a very neat job in pointing out to other professional colleagues what he expected them to be able to do in the way of providing teachers with rather specific and precise guidelines and principles.

The portion of his presentation which held particular interest for me was his discussion of the reinforcers. We need to take a long look at some of our naive notions of rewards and punishment, especially punishment. In some groups the idea of giving kids candy or a toy (not your flashlight, you may need it again) or some other tangible reinforcement, may prove somewhat shocking. Particularly in public school settings, gift giving has been regarded as some what on the order of a bribe rather than as a coolly calculated plan for attracting interest and cooperation, and ultimately developing a different sense of values. We have projected our own purposes upon kids, perhaps projected our own values and reinforced the idea that to give anything of any substance was automatically a bribe, rather than a legitimate way of serving some other kind of purpose.

I would think, in connection with work with these children and with children in general, that we need to review something of the philosophies and theories of punishment: the concept of <u>deterrent</u>, the concept of <u>restitution</u>, and the concept of <u>revenge</u>. Punishment

as restitution and revenge has been completely worthless. With respect to the business of deterrence, or modification of behavior, I think the reason that we've failed there has simply been that we haven't been using it correctly, or appropriately. Dr. Quay's suggestions for the appropriate use of reinforcers, some of which may be painful or uncomfortable, or inconvenient, and thus may be thought of as some form of punishment, need another look.

I think it would have been a little more useful if, in the beginning Dr. Quay had told us that he was working with comparatively young children. I would be very much interested in knowing his thinking with respect to the application of some of these same notions and principles with children whose life experience has been longer, who have perhaps already adapted, adopted and established certain value systems about which they're quite articulate, and which may -- and which do pose some very special concern to us.

It's rather interesting that just within the past week the American Educational Research Association, in cooperation with classroom Teachers Association, has produced their Pamphlet No. 32 on controlling classroom misbehavior. It deals with material, in a somewhat attentuated way, along the lines of the discussion which Dr. Quay has presented to us. My final comment is simply this: Dr. Quay has described what is presently an experimental classroom, and the nature of the experiment has required certain setups and additional personnel,

and close scrutiny and controls. I think, from my reading of his paper, and following his comments, that he'll be able to develop this into a model of behavioral management that will be more widely adapt - and feasible in public school settings. And to keep my closing comments still on the general theme, I will simply say that, borrowing from what I'm sure is a very expensive ad that I noticed in the subway, perhaps all it really takes is a little cash and a lot of courage.